

<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/893,301	DAVIS ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Jack M. Choules	2167	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Papers filed 24 August 2005 and 16 November 2005.
2. ☒ The allowed claim(s) is/are 1-10.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |  |
|---|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment                               |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance   |
|   | 9. <input type="checkbox"/> Other _____.   |

### **EXAMINER'S AMENDMENT**

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

The application has been amended as follows:

The Abstract has been amended on the examiners authority to read as follows:

Disclosed are methods and for incrementally updating the accuracy provided by documents in training set of used for automatic categorization. A k-nearest neighbor database includes the documents in the training set, categories, category assignments of the documents and category scores for the documents. A list made up of the nearest neighbors of the documents and corresponding similarity scores contains is maintained by the method. On adding or deleting documents or category assignments, the documents influenced by the changed documents or category assignments are identified. The category scores of the identified documents are updated to be consistent for the updated training set and a new precision and recall curves are computed for the categories including updated category scores. The precision and recall curves may be used to determine an optimal number of documents to maximize the return of relevant documents while minimizing the total number of documents.

The following changes to the drawings have been approved by the examiner: Figures 1, 2, and 7 contain boxes with only index numbers these boxes should have suitable descriptive legends added to make understanding these drawings clearer as per 37 CFR 1.83(o). In order to avoid abandonment of the application, applicant must make the above-described drawing changes.

The following is an examiner's statement of reasons for allowance: The reasons given in the arguments submitted in the papers filed 24 August 2005, are found to be convincing. Liddy et al., in US patent No. 6,006,221 discloses a system that maintains a clustering of categories of documents using nearest neighbor algorithms but does not describe how the categories are maintained, when documents or category assignments are added or deleted, or calculating precision and recall curves (see column 20) which were argued by applicant as distinctions over the art previously of record in the above mentioned arguments. The further art made of record has the same shortfall not showing the claimed invention for the same reasons. Thus the claims are considered distinct and non- obvious over the art of record as argued by the applicant.

The claims are method claims that provide the utility of calculating precision and recall curves which are usable to pick the number of documents which will provide the best accuracy of search recall of the categorization system (see pages 5-11 of the specification), the results are concrete as the same documents and categories will provide the same scores resulting in the same precision and recall curves, and the results are tangible as the precision curve represents the percent of relevant documents

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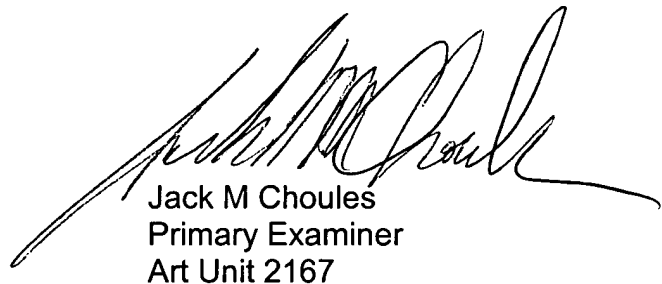
returned for a particular number of documents returned and the recall curves and the recall curve relates to the number of relevant documents returned out of a total number of relevant documents in the database (see page 5 of the current specification) a result that provides real and useful information for improving query and browsing results in the categorized database. Thus the claims define methods that are useful concrete and tangible and thus statutory.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jack M. Choules whose telephone number is (571) 272-4109. The examiner can normally be reached on M-F (7:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jean R. Homere can be reached on (571) 272-3780. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jack M Choules  
Primary Examiner  
Art Unit 2167

17 January 2006